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Determinants Of Cross Border Merger and Acquisition in Advanced Emerging Market Acquiring Firms

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Abstract

Cross border merger and acquisition (CBMA) deals worth over US$2 billion every year but failure rate is between 70 to 90 percent. Many researchers have tried to explain those abysmal statistics but the outcomes are equivocal. This research aims to examine the determinants of CBMA that affect the shareholder value creation of advanced emerging market acquiring firms. Event study and regression analysis are applied for the study period 2000-2011. The result shows six determinants have a positive relationship with the shareholder value creation and are statistically significant for the advanced emerging market scenario.

Keywords: **Cross border merger and acquisition; determinants; event study; regression analysis**

1. Introduction

Ashoka and Shoko, 2001, explained that CBMA in Asian countries such as Indonesia, Korea, Malaysia and Thailand rose sharply in value from US$3 billion in 1996 to US$22 billion in 1999, before falling slightly to US$18 billion in 2000. In 2004, Japan, China and ASEAN regions together accounted for 15.9 percent of the world's M&A deals and 7.7 percent of the world's M&A transactions value (Roger and Ali, 2006). Asian countries are foreseeable as the faster growing in terms of economy compared to other regions in the world and are playing important roles in the international trade and global investment. As a result, there will be more

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CBMA involving the companies from Asian countries in the future.

Malaysia is one of the developing countries that experienced rapid growth which transformed it from an agriculture-based economy to an industrial- based economy. Malaysia has been classified as an advanced emerging market in June 2011 by FTSE Group. This is the recognition for the continuous effort and commitment by the government, regulators and market participants to build a high quality market which will attract more investment from global investors. For decades Malaysia has been following prudent macroeconomic policies, focusing on low inflation, strong external reserves and current account surpluses. This study focuses on Malaysia as one of the advanced emerging market countries.

2. Statement of Problem

In Malaysia, Saiful, 2007, urged that there is a lack of empirical research on the economic consequences of the firms involved in M&A, particularly in an emerging market. None of the studies on corporate M&A activities in Malaysia is comprehensive to conclusively establish the economic gain in M&A of the bidder and target firms. She also suggested future researchers look into CBMA of Malaysian firms which are also lacking. Her suggestion is supported with the statement made by Sanjai *et al*., 2011, on the very few academic papers focusing on the financial impact on the emerging market companies of CBMA. The increasing trend toward CBMA by firms from emerging market and lack of research in this area creates the need to address whether the extant conceptual framework and empirical evidence on international CBMA are relevant for acquirers outside the developed countries.

Therefore, this study is to fill in the research gap by exploring the determinants within the advanced emerging market acquiring firms, for example, financial data as suggested by Sanjai *et al*., 2011, and external factors, for example, economic factors as suggested by Saiful, 2007.

3. Literature Review

There are inconclusive findings on shareholder value creation from mergers and acquisitions by previous researchers. Conn *et al*., 2005; Black *et al*., 2007; and Francis *et al*., 2008, found out that the announcement of cross-border acquisitions resulted in positive abnormal returns. Glamour acquirers generated more value in cross-border acquisitions of public firms while value and high technology acquirers and a higher cultural difference resulted in a greater value creation in the cross-border acquisition of private firms. Meanwhile, Gregory and McCorriston, 2005; Moeller and Schlingemann, 2005; Wooster, 2006; Aybar and Ficici, 2009, show that there was no significant effect relating to the announcement of acquisitions on shareholders' wealth.

4. Research Methodology

An event study is carried out to examine the share price behavior of bidding firms and target firms over the specified period of time. This study focuses on how security prices respond to the information released during a public announcement of a specific event of a firm in the case of M&A. Franks *et al*., 1977, commented that the market begins to anticipate mergers on average of at least 3 months prior to the announcement date. Daily historical prices for the stock of acquiring companies as well as market index are obtained from data-stream. The sample comprises 285 transactions of CBMA throughout 2000 to 2011. From 285 CBMA, only 73 transactions are considered as the final sample in this study that exceeds the limitation set in this research. The daily realized returns (R_{it}) for each day *t* for the event window [-90; +90] are computed. The daily abnormal returns (AR_{it}) are obtained as differences of realized and predicted returns on day *t* in the event period.

$$AR_{it} = R_{it} - (\alpha + \beta_i R_{mt}) \quad (1)$$

$$\text{where, } R_{it} = P_1 - P_0 \quad (2)$$

where: R_{it} is the return of stock i at time t, R_{mt} is the market index return at time t

According to Campbell *et al*., 1997, the market model represents a potential improvement over the traditional constant mean-return model, because by removing the portion of the return that is related to a variation in the market's return, the variance of the AR is reduced. This can lead to an increased ability to detect event effects. The daily average abnormal returns (AR_t) and cumulative abnormal returns (CAR_t) for each day t for the event window [-90; +90] are computed as follows:

$$AR_{it} = \frac{1}{n} \sum_{t=1}^{n} AR_{it} \quad (3)$$

$$CAR_t = \sum_{t=t_1}^{t=t_2} AR_{it} \quad (4)$$

where: t_1 represents the first day of event window, t_2 represents the last day of the event window and n represents the number of transactions in the sample.

This research uses hypothesis testing to test relationship between the dependent variable with independent variables. The dependent variable is cumulative abnormal returns (CAR). CAR is used to measure the short-run shareholder value creation. Sanjai *et al*., 2011, used CAR to test the determinants of cross sectional variation with classical factors and governance factors. The independent variables are board size, independent board of director, market-to-book ratio, free cash flow, financial leverage, liquidity, firm age, gross domestic product and corporate tax rate. Table 1.0 shows the hypotheses for this study.

Table 1. Hypotheses.

H1:	Board size is positively related with shareholder value creation of the acquiring firms in CBMA.
H2:	An independent board of directors (IND. DIRECTOR) is positively related with shareholder value creation of the acquiring firms in CBMA.
H3:	Market-to-book ratio (MTB) is positively associated with shareholder value creation at acquiring firms in CBMA.
H4:	Free cash flow (FCF) is positively associated with the shareholder value creation of acquiring firm in CBMA.
H5:	Financial leverage (LEV) is a positively related with the value creation of acquiring firm in CBMA.
H6:	Liquidity (LIQ) is positively related with the shareholder value creation of acquiring firm in CBMA.
H7:	Firm Age (AGE) is positively related with the shareholder value creation of acquiring firm in CBMA.
H8:	Firm Size (SIZE) is positively related the with the shareholder value creation of acquiring firm in CBMA
H9:	Sales growth (GRO) is positive related with the shareholder value creation of acquiring firm in CBMA.
H10:	Gross domestic product (GDP) is positively related with the shareholder value creation of acquiring firm CBMA
H11:	Corporate tax rate (TAX) is negatively related with the shareholder value creation of acquiring firm in CBMA.
H12:	Foreign exchange rate (FOREX) is negatively related with the shareholder value creation of acquiring firm in CBMA

Lastly, a cross sectional regression analysis is applied to show the relationship between dependent and independent variables at one period or point in time. The determinants of acquiring firms in CBMA are examined with shareholder value creation (CAR) through cross-sectional regression analysis. The general cross-sectional regression model as follows:-

$$CAR = \alpha_i + \beta_1 BOARD\ SIZE + \beta_2 IND.\ DIRECTOR + \beta_3 MTB + \beta_4 FCF + \beta_5 LEV + \beta_6 LIQ + \beta_7 AGE + \beta_8 SIZE + \beta_9 GRO + \beta_{10} GDP + \beta_{11} TAX + \beta_{12} FOREX + e_{it} \quad (5)$$

5. Result and Discussion

Table 2.0 provides the result of the event window (-90, 90) based on 73 CBMA transactions of Malaysian acquiring firms. The cross section regression model is as follows.

$$CAR = 5.868604 + 0.144514\ BOARD\ SIZE + -0.010357\ IND.\ DIRECTOR + -0.008874\ MTB + 0.0000000354\ FCF + -0.000906\ LEV + 0.620766\ LIQ + 0.089656\ AGE + -0.380366\ SIZE + 0.152487\ GRO + -0.013203\ GDP + -0.108630\ TAX + 0.795841\ FOREX + e_{it} \quad (6)$$

The results show that the model as a whole perform well in terms of the joint significance of variables, *F*-value is 78.35806 (Prob. > *F*=0.0000). In other word, the model is significantly fitted and this research has value to proceed. On the other hand, the low adjusted R^2 (59 per cent) suggests that the dependent variable is explained by factors other than independent variables.

Table 2. Ordinary Least Square – The results of basic model parameter estimates and test of significance.

Variable	Coefficient	Prob.
C	5.868604	0.0000***
BOARD_SIZE	0.144514	0.0000***
IND_BOD	-0.010357	0.0934***
MTB	-0.008874	0.3038
FCF	3.54E-08	0.0000***
LEV	-0.000906	0.0011***
LIQ	0.620766	0.0000***
FIRM_AGE	0.089656	0.0000***
FIRM_SIZE	-0.380366	0.0000***
SALES_GRO	0.152487	0.0000***
GDP	-0.013203	0.0017***
CORPORATE_TAX	-0.108630	0.0000***
FOREX	0.795841	0.0000***
R-squared	0.590047	
F-statistic	78.35806	
Prob(*F*-statistic)	0.000000	

Note: *** denote significance at 1per cent level.

At the level of the individual variable, board size has a positive relationship (Coefficient=0.144514) with CAR whereby an increase in the number of board size would increase CAR and statistically significant (prob. = 0.0000) at 1 per cent significant level. This supports hypothesis 1 that the board size of Malaysian acquiring firms contribute positively to the shareholder value creation. The result is similar to that of Coles *et al*., 2007, Bauguess and Stegemoller, 2008 and Dalton *et al*., 1999, that board size affects firm and market performance. Another variable~~s~~ to represent agency theory which is independent board of directors has a negative

relationship (Coefficient = -0.010357) with the shareholder value creation and statistically significant (prob. = 0.0934) at 1 per cent significant level. This result rejects hypothesis 2 that independent board of directors is positively related to the shareholders value creation.

Based on financial ratio variables, MTB has a negative relationship (Coefficient = -0.008874) with CAR whereby an increase in number of MTB would increase CAR and statistically not significant (prob. *t*= 0.3038) at 1 per cent significant level. This rejects hypothesis 3 that the MTB of Malaysian acquiring firms contribute positively to the shareholder value creation. From the result, FCF has a positive relationship (Coefficient= 0.0000000354) with shareholder value creation and statistically significant (prob. = 0.0000) at 1 per cent significant level. This result supports hypothesis 4 that FCF is positively related to the shareholders value creation. LEV has a positive relationship (Coefficient=-0.000906) with shareholder value creation and statistically significant (prob. = 0.0000) at 1 per cent significant level. This result rejects hypothesis 5 that LEV is positively related to the shareholders value creation. LIQ has a positive relationship (Coefficient=0.620766) with shareholder value creation and statistically significant (prob. = 0.0000) at 1 per cent significant level. This result supports hypothesis 6 that LIQ is positively related to the shareholders value creation. The firm AGE has a positive relationship (Coefficient = 0.089656) with the shareholder value creation, and is statistically significant (prob. = 0.0000) at 1 per cent significant level. This result supports hypothesis 7 that AGE is positively related to the shareholders value creation. The firm SIZE has a negative relationship (Coefficient = -380366) with shareholder value creation and statistically significant (prob. = 0.0000) at 1 per cent significant level. This result rejects hypothesis 8 that the firm SIZE is positively related to the shareholders value creation. The last determinant from financial information is sales GRO. The sales GRO has a positive relationship (Coefficient = 0.152487) with shareholder value creation and statistically significant (prob. = 0.0000) at 1 per cent significant level. This result supports hypothesis 9 that the sales GRO is positively related to the shareholders value creation.

On the macro economic factors, GDP has a negative relationship (Coefficient = -0.013203) with CAR whereby an increase in the number of GDP would decrease CAR and statistically significant (prob. = 0.0017) at 1 per cent significant level. This rejects hypothesis 10 that the GDP contribute positively to the shareholder value creation. TAX has a negative relationship (Coefficient = -0.108630) with cumulative abnormal return whereby an increase in number of tax would decrease CAR and statistically significant (prob. *t*= 0.0000) at 1 per cent significant level. This supports hypothesis 11 that the TAX contributes negatively to the shareholder value creation which is similar with the finding of Markides and Ittner, 1994, and Cakici *et al*., 1996. The last economy factor selected in this research is foreign exchange rate (FOREX). FOREX has positive relationship (Coefficient =0.047707) with cumulative abnormal return whereby an increase in number of FOREX would increase cumulative abnormal return and statistically significant (prob. > *t*= 0.0000) at 1 per cent significant level. This rejects hypothesis 12 that the FOREX contributes negatively to the shareholder value creation.

5. Conclusions

Overall, the basic model used in this study to examine the relationship between the determinants or independent variables with the cumulative abnormal return or shareholder value creation is statistically significant. From twelve hypotheses, six hypotheses support that the determinants have a relationship with the cumulative abnormal return or shareholder value creation. It can be concluded that the internal factors of the acquiring firms significantly contribute to the shareholders' value creation.

In term of economy factor, TAX has a positive relationship and is statistically significant to shareholder value creation. This means that external determinants also influence the shareholder value creation. This is supported by the increase in the value and numbers of cross border mergers and acquisitions in the advanced emerging markets not only Malaysia but all over the world.

There is room for improvement over the basic model of this study by adding more variables such as

changing the event window instead of (-90, 90) days to (-120,120) days, (-60, 60) days, (-30, 30) days or other event windows to test the robustness. The model can also be expended by adding new variables such as financial data or financial ratios of target firms, political risk, and others to make the model more acceptable and make the study more robust. Besides, future researchers can relate the M&A theories with the determinants to make the future study more interesting. Findings from this study can contribute to the body of the existing literature on CBMA particularly on advanced emerging markets for future researchers.

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